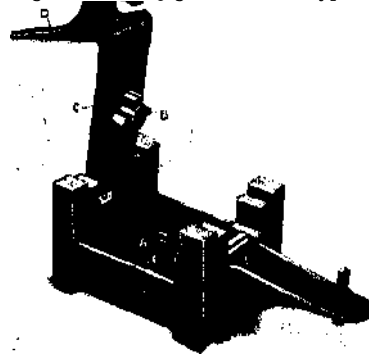


the jig when the cylinder flange is being drilled is shown at 5. An annular projection on the jig fits closely in the cylinder counterbore, as the illustration shows, to locate* the jig concentric with the bore. As the holes in the cylinder are to be tapped or threaded for studs, a "tap drill;"¹ which is smaller in diameter than the bolt body, is used and the drill is guided by a removable bushing J of the proper size. Jigs of this type are often held in position by inserting an accurately fitting plug through the jig and into the first hole drilled, which prevents the jig from turning with relation to the cylinder, when drilling the other holes. When the jig is used for drilling the head, the

Fig. 2. Drill Jig of the Box Type



opposite side is placed next to the work* as shown at ("). This side has a circular recess or counterbore, which fits the projection on the head to properly locate the jig. As the holes in the head must be slightly larger in diameter than the studs, a nut and a guide* drill and a guide* bushing of corresponding size are used*. The cylinder is, of course, bored and the head turned before the drilling is done.

Jigs of the open class, as well as those of other types, are made in a great variety of shapes, and, when in use, they are either applied to the work or the latter is placed in the jig. When the work is quite large, the jig is frequently placed on it, whereas small parts are more often held in the jig, which is so designed that the work can be clamped in the proper position. The form of any jig depends, to a great extent, on the shape of the work for which it is intended and also on the location of the holes to be drilled. As the number of differently shaped pieces which go to make up even a single machine is often very